



Role of the Industrial Hygienist in Emergency Preparedness & Response – NASA Occupational Health Conference 2006

by

Joselito Ignacio, CIH, CSP, REHS/RS, MPH
US Public Health Service Officer Detailed
to the US Coast Guard



AIHA
Your Essential Connection
AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

Outline

- Background
- AIHA White Paper on Role of IH in EPR
- Questions/Comments



AIHA
Your Essential Connection
AMERICAN INDUSTRIAL HYGIENE ASSOCIATION



Background

- AIHA created an Emergency Response & Planning Task Force (EPR TF) in 2005
 - Comprises of 13 AIHA members with various emergency planning and response backgrounds
 - 1 Board Coordinator
 - 3 AIHA staff support



AIHA
Your Essential Connection
AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

Background

- Purpose of EPR TF
 - Advise & Provide oversight to AIHA activities related to EPR issues
 - Identify gaps in products/services related to EPR
 - Provide guidance to AIHA and its members on ways to promote EPR from an IH/Safety/Environmental Health perspective.



AIHA
Your Essential Connection
AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

Background

- 2005: Released a White Paper *“Role of the Industrial Hygienist in Emergency Preparedness & Response”*

http://www.aiha.org/1documents/GovernmentAffairs/EPRWhitePaper_Final.pdf



AIHA
Your Essential Connection
AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

EPR White Paper

Executive Summary

Regardless of the event point in an incident, such as pre-planning, the emergency response, or the consequence management phases, Industrial Hygienists' broad professional experience, training, and educational background provide planners, incident commanders, and community leaders with effective methods to identify, manage, and ultimately, control risks associated with natural disaster, hazardous material accidents, and terrorism events.



AIHA

Your Essential Connection

AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

Source for EPR White Paper

- NIOSH/RAND Report:
Protecting Emergency Responders, Volume 3, Safety Management in Disaster and Terrorism Response



AIHA
Your Essential Connection
AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

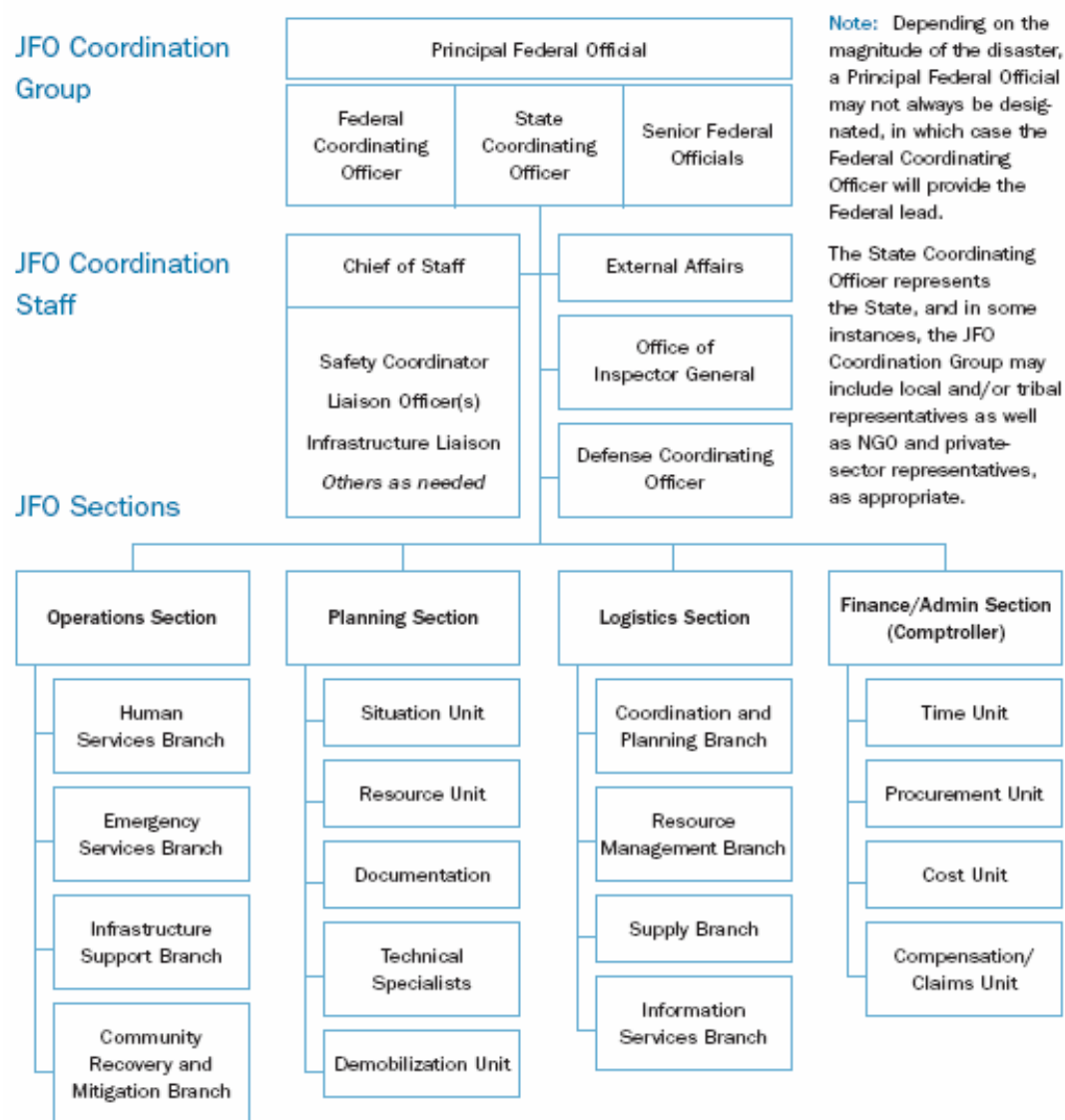
NIOSH/RAND Findings Specific to IH & Safety Professionals

- (1) Develop assessment methods, checklists, guidelines and standards to assist in hazard monitoring among multiple agencies.
- (2) Develop credentialing systems better suited to major disaster response operations.
- (3) Develop minimum standards for safety and health training for all responders involved in disaster response operations.
- (4) Develop guidelines for selecting protective equipment to use in the early phase of a response.
- (5) Develop guidelines for estimating the safety equipment requirements for disaster response operations.
- (6) Effectively address the issue of safety implementation at a response as part of a multi-agency effort.
- (7) Provide on-site safety training.
- (8) Improve long-term surveillance of responders' health following a major response.
- (9) Build an integrated safety function into an Incident Command System.
- (10) Develop a group of highly trained safety managers to facilitate coordination at a major incident.
- (11) Improve joint exercises and training by incorporating realistic safety and health issues.
- (12) Develop a common terminology for disaster safety and health issues and processes for use during response operations.



AIHA
Your Essential Connection
AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

FIGURE 6. Sample JFO organization during natural disasters



IH positions at a JFO or Incident Command

Industrial Hygienist

**Air Monitoring
Group
Supervisor/Member**

**Field Observer for
Safety Officer**

**Health and Safety
Trainer (e.g.,
HAZWOPER)**

**Respiratory
Protection Program
Manager**

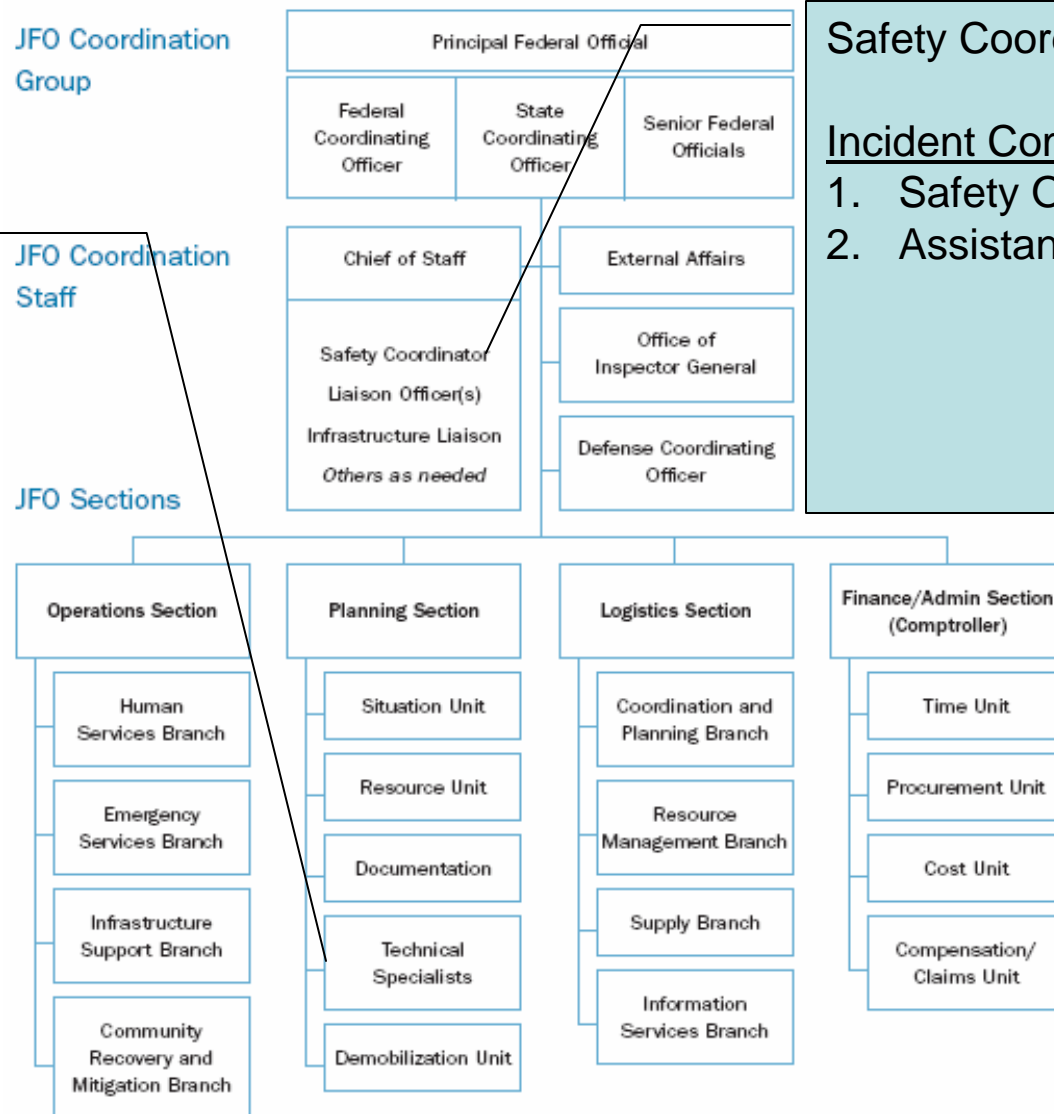
**Risk
Assessor/Hazard
Analyst**

FIGURE 6. Sample JFO organization during natural disasters

**JFO Coordination
Group**

**JFO Coordination
Staff**

JFO Sections



Safety Coordinator

Incident Command

1. Safety Officer
2. Assistant Safety Officer



AIHA

Your Essential Connection

AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

National Response Plan, December 2004

IH Functions Critical to EPR

- IH Function#1: Participate in Pre-Planning for a Major Incident.
- IH Function#2: Develop and Implement Exposure Assessment Methods
- IH Function#3: Develop and Implement Monitoring Methods to Track Responders' Exposures
- IH Function#4: Interpret Data from Sampling Activities and from Direct-Reading Instrumentation
- IH Function#5: Advise, Develop, and Implement the Appropriate Elimination Controls
- IH Function#6: Advise, Develop, and Implement the Appropriate Engineering Controls



AIHA
Your Essential Connection
AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

IH Functions Critical to EPR



- IH Function#7: Advise, Develop, and Implement Appropriate Safe Work Practices and Administrative Controls.
- IH Function#8: Advise, Develop, and Implement the Appropriate Personal Protective Equipment (PPE).
- IH Function#9: Advise, Develop, and Implement Personnel Decontamination Procedures.
- IH Function#10: Advise, Develop, and Implement Remediation Activities for a Facility.
- IH Function#11: Advise, Develop, and Implement a Respiratory Protection Program.
- IH Function#12: Effectively Develop Site Safety Plans and Execute Key Incident Command Staff Functions.



AIHA

Your Essential Connection

AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

IH Functions Critical to EPR

- IH Function#13: Perform Health and Safety Field Compliance Actions.
- IH Function#14: Perform Variety of Health and Safety Training on-site.
- IH Function#15: Effectively Communicate Risks Based Upon Complex Scientific and Field Data.
- IH Function#16: Incident Investigations Involving Safety or Acute Chemical, Biological or Physical Agent Exposures.



AIHA

Your Essential Connection

AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

Minimum Professional Competencies to Perform as an IH in EPR

IH Specialty Skills

- (1) Plan and conduct exposure assessment to include the determination of similar exposure groups
- (2) Plan, advise, and evaluate adequacy of ventilation controls;
- (3) Plan and conduct air sampling for both area and personal breathing zone monitoring
- (4) Determine adequacy of Chemical Protective Clothing (CPC)
- (5) Properly select, train, and fit-test response personnel on various Respiratory Protection devices
- (6) Describe toxicological effects
- (7) Correctly interpret laboratory and field direct-reading instrumentation data by comparing them to the appropriate emergency response guideline level or OSHA PEL, or ACGIH TLV;
- (8) Describe the capabilities and limitations of various direct-reading instruments for chemical and radiological agents;
- (9) Describe the capabilities and limitations of biological agent sampling technologies such as immunoassay, and polymerase chain reaction (PCR).
- (10) Describe various biological and dermal exposure monitoring methods, their capabilities, and limitations.



AIHA
Your Essential Connection
AMERICAN INDUSTRIAL HYGIENE ASSOCIATION



Minimum Professional Competencies to Perform as an IH in EPR

Safety Specialty Skills

- (1) Understand the basics of fall protection requirements;
- (2) Understand the basics of trenching safety requirements;
- (3) Understand and be able to implement Permit Confined Space Entry requirements;
- (4) Understand the basic safety requirements involving demolition and construction;
- (5) Understand the basics of traffic safety plans at an incident area;
- (6) Understand the basic safety requirements involving material handling, particularly involving heavy lift equipment.

Environmental Health Specialty Skills

- (1) Understand basics of drinking water quality methods and standards;
- (2) Understand basics of waste management requirements
- (3) Understand basics of living/berthing sanitation issues;
- (4) Understand basic food service sanitation;



AIHA
Your Essential Connection
AMERICAN INDUSTRIAL HYGIENE ASSOCIATION



Minimum Professional Competencies to Perform as an IH in EPR

Emergency Response/Planning Skills.

- (1) Describe and effectively apply the National Incident Management System (NIMS);
- (2) Describe and implement the NIMS process of developing an Incident Action Plan;
- (3) Describe and implement the method of effectively developing a Site Safety Plan.
- (4) Describe aspects of the National Response Plan, and applicable state/agency response plans.



Individual Professional Skills

- (1) Able to physically and mentally work long hours at an incident after traveling many hours;
- (2) Effective computer skills in using word, spreadsheet, and internet software;
- (3) Organize a deployment kit, which includes personal (e.g., clothing, toiletries), and professional items
- (4) Good organizational skills such as filing important documents (e.g., air monitoring logs);
- (5) Effective communication skills to relay complex scientific data into understandable terms
- (6) Resourceful and takes initiative.



AIHA
Your Essential Connection
AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

Future Efforts in AIHA

- Identify and recommend fixing gaps in AIHA products and services to both:
 - Members
 - Outside the organization
- Provide pool of subject matter experts on EPR to the association & press inquiries
- Outreach to local AIHA sections & response organizations/communities
- Provide technical EPR support/advisor to technical committees.



AIHA
Your Essential Connection
AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

Contact Information

- TF Chair:
 - Commander Joselito Ignacio
JIgnacio@comdt.uscg.mil
- AIHA Staff Support:
 - Mili Mavely: MMavely@aiha.org
 - Margie Breida: MBreida@aiha.org
 - Mary Ann Latko: MLatko@aiha.org



AIHA
Your Essential Connection
AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

Questions/Comments



AIHA
Your Essential Connection
AMERICAN INDUSTRIAL HYGIENE ASSOCIATION